DOCUMENT RESUME

ED 338 830 CE 059 520

TITLE	Beef and Sheep Producer. Ohio's Competency Analysis Profile.
INSTITUTION	Ohio State Univ., Columbus. Vocational Instructional Materials Lab.
SPONS AGENCY	Ohio State Dept. of Education, Columbus. Div. of Vocational and Career Education.
PUB DATE	91
NOTE	45p.; For related documents, see CE 059 517-542.
AVAILABLE FROM	Vocational Instructional Materials Lab, Ohio State University, 1900 Kenny Road, Columbus, OH 43210-1090 ($1.50).
PUB TYPE	Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Agribusiness; Agricultural Education; Agricultural Engineering; Agricultural Production; Agriculture; *Animal Husbandry; Competence; *Competency Based Education; Employment Potential; Entry Workers; Farmers; Farm Management; High Schools; Job Analysis; *Job Skills; Marketing; Occupational Safety and Health; Promotion (Occupational); Statewide Planning; Task Analysis; Vocational Education
IDENTIFIERS	*Beef Cattle; DACUM Process; Ohio; *Sheep

ABSTRACT

This comprehensive and verified employer competency list was developed from a modified DACUM (Developing a Curriculum) process involving business, industry, labor, and community agency representatives from Ohio. This competency list contains 11 units (with or without subunits), competencies, and competency builders that identify the occupational, academic, and employability skills needed to enter the agricultural business as a beef and sheep producer. Within the outline are three levels of items: core (required, the basis for state vocational competency tests); advancing (needed to advance in an occupation); and futuring (needed to enter and remain in a given occupation 3 to 4 years from now). The units cover the following: (1) general safety precautions; (2) animal care; (3) genetics, reproduction, and breeding; (4) waste handling and disposal; (5) nutrition, feeds, and feeding; (6) herd health; (7) marketing; (8) business management; (9) agricultural mechanics; (10) crop/forage production; and (11) employability skills. (KC)

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OCAP

OHIO'S COMPETENCY ANALYSIS PROFILE

BEEF AND SHEEP PRODUCER

Employer Verification Panel

Thomas P. Brown, *Independent Sheep Producer,* Troy, Ohio

Bill Cleland, Jr., *5'C Farms,* Hicksville, Ohio

Joe Koch, *Producers Livestock Association,* Columbus, Ohio

Rick Moore, *Cottage Hill Farm,* Flushing, Ohio

M. Lynn Welker, *Independent Sheep Producer,* Millersburg, Ohio

P. Eric Whittington, *Mid-States Wool Growers Corp.,* Columbus, Ohio

Thomas F. Wonderling, *Independent Sheep Producer,* Applecreek, Ohio

Jerry Woodard, *Countrymark, Inc.,* Delaware, Ohio

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CE 057 520

Ohio's Future at Work

Division of Vocational and Career Education
Ohio Department of Education

Vocational Instructional Materials Laboratory
Center on Education and Training for Employment
THE OHIO STATE UNIVERSITY

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What is OCAP?

"A comprehensive and verified employer competency list will be developed and kept current for each program." This is the second objective of Imperative 3 of the *Action Plan for Accelerating the Modernization of Vocational Education: Ohio's Future at Work*. Ohio's Competency Analysis Profile (OCAP) lists are the Division of Vocational and Career Education's response to that objective. OCAP lists evolve from a modified DACUM process involving business, industry, labor, and community agency representatives from throughout Ohio. The OCAP process is directed by the Vocational Instructional Materials Laboratory at The Ohio State University's Center on Education and Training for Employment.

How is OCAP used?

Each OCAP contains units (with and without subunits), competencies, and competency builders that identify the occupational, academic, and employability skills needed to enter a given occupation or occupational area. Within that outline there are three levels of items: core, advancing, and futuring. Core items are essential to entry-level employment. These items are required to be taught and will be the basis for questions on the state vocational competency tests (scheduled to begin in FY93). Advancing items (marked with one asterisk) are needed to advance in a given occupation. Futuring items (marked with two asterisks) are needed to enter and remain in a given occupation three to four years from now.

Districts may add as many units, subunits, competencies, and competency builders as desired to reflect local employment needs, trends, and specialties. Local advisory committees should be actively involved in the identification and verification of additional items. Using OCAP lists, instructors will be able to formulate their courses of study and monitor competency gains via the new competency testing program.

The **Employability Skills** portion of this list was verified by the following employer panel:

Gary J. Corrigan, *Dana Corporation*, Ottawa Lake, Michigan
David Crooks, *Bowling Green State University Union Food Service*, Bowling Green, Ohio
Pat Doerman, *Farrow's Harley-Davidson*, Columbus, Ohio
William Gockenbach, *Kaiser Aluminum*, Heath, Ohio
Patsy Hathaway, *CBS Personnel Services, Inc.*, Dayton, Ohio
Marlyn Harman, *Marlyn Harman & Associates*, Cleveland, Ohio
Thomas R. Hyldahl, *Toledo Edison*, Toledo, Ohio
Carol C. James, *Ohio Contractors Association*, Columbus, Ohio
James Mack, *Chrysler Jeep Assembly*, Toledo, Ohio
Rocky McCoy, *Ironton-Lawrence Co. Community Action Organization*, Ironton, Ohio
James Needs, *Independent Crop Producer*, Upper Sandusky, Ohio
Ronald Simmons, *Former GM Executive*, Warren Ohio

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OHIO COMPETENCY ANALYSIS PROFILE

Beef and Sheep Producer

UNIT 1: General Safety Precautions

COMPETENCY 1.0.1: Maintain safe work environment

COMPETENCY BUILDERS:

1.0.1.1 Organize and maintain clean, neat, and safe work area
1.0.1.2 Identify and correct safety hazards
1.0.1.3 Provide well-lighted work area
1.0.1.4 Ventilate work areas
1.0.1.5 Identify and safely handle hazardous materials
1.0.1.6 Store hazardous materials
1.0.1.7 Read and follow safety information
1.0.1.8 Maintain and install safety devices*
1.0.1.9 Clean up and dispose of hazardous materials*
1.0.1.10 Comply with EPA regulations and recognize when to call government agencies for cleanup and disposal of hazardous waste materials*
1.0.1.11 Comply with OSHA regulations*

COMPETENCY 1.0.2: Apply safe work habits

COMPETENCY BUILDERS:

1.0.2.1 Wear protective clothing and equipment
1.0.2.2 Use safe lifting and carrying methods
1.0.2.3 Administer first aid
1.0.2.4 Follow safety directions on hazardous materials labels
1.0.2.5 Use fire extinguishers
1.0.2.6 Recognize symptoms of chemical injury or poisoning
1.0.2.7 Handle compressed gases
1.0.2.8 Maintain and use slow moving vehicle signs when operating vehicles on road
1.0.2.9 Prevent riders on agricultural and industrial equipment not designed for riders
1.0.2.10 Use safe animal handling practices

* advanced
** futuring

COMPETENCY 1.0.3: Operate and maintain equipment

COMPETENCY BUILDERS:

1.0.3.1 Follow safety rules for equipment operation and maintenance
1.0.3.2 Operate equipment defensively
1.0.3.3 Maintain safety shields on all equipment
1.0.3.4 Shut down power equipment before servicing and adjusting equipment or clearing obstructions
1.0.3.5 Recognize hazards involved in working near above- and below-ground public utilities
1.0.3.6 Follow correct procedures when working in manure-handling facilities and silos
1.0.3.7 Follow manufacturer's service recommendations

UNIT 2: Animal Care

COMPETENCY 2.0.1: Perform general animal care procedures

COMPETENCY BUILDERS:

2.0.1.1 Follow general safety precautions
2.0.1.2 Identify parts of animal anatomy
2.0.1.3 Apply animal identification procedures
2.0.1.4 Guard and control flock against predators
2.0.1.5 Provide adequate amounts of clean food and water
2.0.1.6 Observe animals daily
2.0.1.7 Handle and move animals with regard for safety of animals and handlers
2.0.1.8 Be aware of animal welfare issues
2.0.1.9 Bed animals
2.0.1.10 Weigh animals

COMPETENCY 2.0.2: Restrain, handle, or move animals

COMPETENCY BUILDERS:

2.0.2.1 Follow general safety precautions
2.0.2.2 Pen animals according to number, size, weight, sex, temperament, and production
2.0.2.3 Isolate and observe newly purchased animals
2.0.2.4 Restrain animals
2.0.2.5 Prepare carriers
2.0.2.6 Load and unload animals

* advanced
** futuring

COMPETENCY 2.0.3: Shear sheep

COMPETENCY BUILDERS:

2.0.3.1 Determine when to shear sheep
2.0.3.2 Contract with wool shearing firm
2.0.3.3 Sharpen and adjust shears
2.0.3.4 Set up and test shearing equipment
2.0.3.5 Repair clippers
2.0.3.6 Shear sheep
2.0.3.7 Supervise shearing crew
2.0.3.8 Prepare fleece for market
2.0.3.9 Pack wool
2.0.3.10 Store wool

UNIT 3: Genetics, Reproduction, and Breeding

COMPETENCY 3.0.1: Demonstrate knowledge of genetics and reproduction

COMPETENCY BUILDERS:

3.0.1.1 Identify parts and understand functions of reproductive system
3.0.1.2 Understand genetic principles
3.0.1.3 Identify actions of hormones affecting reproduction*

COMPETENCY 3.0.2: Apply prebreeding factors*

COMPETENCY BUILDERS:

3.0.2.1 Evaluate body condition*
3.0.2.2 Determine flushing program*
3.0.2.3 Evaluate sire's fertility and soundness*
3.0.2.4 Determine heat synchronization program*

* advanced
** futuring

COMPETENCY 3.0.3: Plan breeding program

COMPETENCY BUILDERS:

3.0.3.1 Schedule breeding intervals or times
3.0.3.2 Calculate losses caused by pregnancy delays
3.0.3.3 Evaluate artificial versus natural insemination
3.0.3.4 Determine age and/or weight for breeding
3.0.3.5 Arrange semen services
3.0.3.6 Determine number of sires needed for herd/flock
3.0.3.7 Establish and implement heat detection plan
3.0.3.8 Evaluate embryo transfer, embryo transplant, and superovulation program*
3.0.3.9 Apply biotechnology processes to reproduction (i.e., transgenic animals)**

COMPETENCY 3.0.4: Select animals

COMPETENCY BUILDERS:

3.0.4.1 Determine types, amounts, and grades of livestock
3.0.4.2 Evaluate raising versus buying replacements
3.0.4.3 Evaluate bull and ram test data
3.0.4.4 Analyze production records and pedigrees
3.0.4.5 Select for body type and conformation
3.0.4.6 Determine guidelines for selecting donor cows/ewes for embryo transfer
3.0.4.7 Verify registration papers for purebred animals
3.0.4.8 Select for heritability of traits
3.0.4.9 Select breeds
3.0.4.10 Identify purchase sources
3.0.4.11 Evaluate purchase price

* advanced
** futuring

COMPETENCY 3.0.5: Breed animals

COMPETENCY BUILDERS:

3.0.5.1 Follow general safety precautions
3.0.5.2 Store, handle, and evaluate semen
3.0.5.3 Breed using natural insemination
3.0.5.4 Schedule pregnancy checks
3.0.5.5 Determine calving/lambing dates
3.0.5.6 Identify animals unable to conceive
3.0.5.7 Arrange medical intervention for slow-to-conceive animals
3.0.5.8 Shear rams for breeding
3.0.5.9 Tag/shear ewes prior to lambing or breeding
3.0.5.10 Regulate heat cycles with hormone manipulation*
3.0.5.11 Determine insemination and embryo deposit time*
3.0.5.12 Breed using artificial insemination*
3.0.5.13 Palpate animals for reproductive evaluation*
3.0.5.14 Explain processes of and differences between embryo transplants, embryo transfers, and superovulation*

COMPETENCY 3.0.6: Care for newborn animals, mothers, and young animals

COMPETENCY BUILDERS:

3.0.6.1 Follow general safety precautions
3.0.6.2 Identify signs of approaching parturition
3.0.6.3 Prepare facilities for parturition
3.0.6.4 Prepare mothers for parturition
3.0.6.5 Recognize calving/lambing disorders
3.0.6.6 Assist mothers during delivery
3.0.6.7 Check newborn animals for physical deformities or health problems
3.0.6.8 Clip navel cords and apply disinfectant
3.0.6.9 Check mothers for expelled placentas
3.0.6.10 Remove afterbirth from calving/lambing area
3.0.6.11 Check udders of mother and assist newborn animals in nursing
3.0.6.12 Record animal identification
3.0.6.13 Administer preventive health measures
3.0.6.14 Use grafting procedures on orphan lambs
3.0.6.15 Revive chilled newborns
3.0.6.16 Administer artificial respiration to newborns
3.0.6.17 Pregnancy test ewes**
3.0.6.18 Clone**
3.0.6.19 Splice genes**
3.0.6.20 Map genes**

* advanced
** futuring

UNIT 4: Waste Handling and Disposal

COMPETENCY 4.0.1: Evaluate, use, and maintain waste handling and disposal system

COMPETENCY BUILDERS:

4.0.1.1 Follow general safety precautions
4.0.1.2 Identify agencies that control waste handling regulations
4.0.1.3 Operate and maintain equipment
4.0.1.4 Follow local, state, and federal regulations*
4.0.1.5 Determine and manage nutrient value of manure*
4.0.1.6 Determine issues involved in water quality*

COMPETENCY 4.0.2: Handle and dispose of waste

COMPETENCY BUILDERS:

4.0.2.1 Follow general safety precautions
4.0.2.2 Protect underground water sources by controlling runoff from feedlot sand housing quarters
4.0.2.3 Determine application methods and rates
4.0.2.4 Dispose of dead animals according to regulations
4.0.2.5 Follow local, state, and federal regulations

UNIT 5: Nutrition, Feeds, and Feeding

COMPETENCY 5.0.1: Compare nutrient requirements

COMPETENCY BUILDERS:

5.0.1.1 Evaluate production requirements
5.0.1.2 Evaluate reproduction requirements
5.0.1.3 Evaluate growth requirements
5.0.1.4 Evaluate maintenance requirements
5.0.1.5 Evaluate effects of environmental factors on nutritional requirements
5.0.1.6 Explain effects of genetic factors on nutritional requirements

* advanced
** futuring

COMPETENCY 5.0.2: Determine nutritive value of feedstuffs

COMPETENCY BUILDERS:

5.0.2.1 Classify feeds according to major nutrient groups
5.0.2.2 Identify factors influencing feedstuff quality
5.0.2.3 Collect grain and forage samples for nutrient analysis
5.0.2.4 Interpret nutrient analysis methods and results
5.0.2.5 Interpret feed tag and label regulations
5.0.2.6 Interpret feed composition tables
5.0.2.7 Determine nutrients provided by forage

COMPETENCY 5.0.3: Balance rations*

COMPETENCY BUILDERS:

5.0.3.1 Use Pearson square method*
5.0.3.2 Perform math calculations*
5.0.3.3 Determine costs*
5.0.3.4 Select feeds and additives*
5.0.3.5 Substitute feedstuffs and evaluate their effects*

COMPETENCY 5.0.4: Feed animals

COMPETENCY BUILDERS:

5.0.4.1 Follow general safety precautions
5.0.4.2 Follow feeding guidelines
5.0.4.3 Identify feeds
5.0.4.4 Prepare feedstuffs
5.0.4.5 Control feed waste
5.0.4.6 Remove spoiled feedstuffs
5.0.4.7 Identify factors that cause loss of appetite
5.0.4.8 Evaluate and report ration palatability
5.0.4.9 Feed colostrum to newborn animals
5.0.4.10 Wean calves/lambs
5.0.4.11 Feed milk replacer to calves/lambs
5.0.4.12 Start calves/lambs on grain and roughage feeding
5.0.4.13 Clean and maintain equipment
5.0.4.14 Observe animal for loss of appetite
5.0.4.15 Identify reactions to flavors, enzymes, molds, and microtoxins*
5.0.4.16 Prepare mineral mixes*
5.0.4.17 Follow feed additive mixing regulations*

* advanced
** futuring

UNIT 6: Herd Health

COMPETENCY 6.0.1: Monitor health

COMPETENCY BUILDERS:

6.0.1.1 Follow general safety precautions
6.0.1.2 Follow prescribed health program
6.0.1.3 Evaluate condition of animals
6.0.1.4 Take animals' temperatures
6.0.1.5 Determine when to call veterinarian
6.0.1.6 Isolate injured or diseased animals
6.0.1.7 Recognize common animal illness
6.0.1.8 Identify symptoms of nutritional imbalance
6.0.1.9 Develop health program*

COMPETENCY 6.0.2: Follow sanitation program

COMPETENCY BUILDERS:

6.0.2.1 Follow general safety precautions
6.0.2.2 Identify sanitation problems
6.0.2.3 Disinfect buildings and equipment
6.0.2.4 Evaluate and use insecticides
6.0.2.5 Select cleaning chemicals, insecticides, and equipment

COMPETENCY 6.0.3: Follow preventive parasite control program

COMPETENCY BUILDERS:

6.0.3.1 Follow general safety precautions
6.0.3.2 Identify problems due to internal and external parasites
6.0.3.3 Identify common symptoms of internal and external parasites
6.0.3.4 Select materials to control parasites*

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COMPETENCY 6.0.4: Treat minor health problems

COMPETENCY BUILDERS:

6.0.4.1 Follow general safety precautions
6.0.4.2 Treat cuts and bruises
6.0.4.3 Record medication treatments
6.0.4.4 Identify types of injections and procedures
6.0.4.5 Identify and mark treated animals
6.0.4.6 Identify animals suffering from bloat
6.0.4.7 Treat animals suffering from bloat*
6.0.4.8 Determine amount of medication or material to use*
6.0.4.9 Administer medications and antibiotics according to withdrawal requirements*

COMPETENCY 6.0.5: Control bacterial, viral, and fungal diseases

COMPETENCY BUILDERS:

6.0.5.1 Follow general safety precautions
6.0.5.2 Identify and treat calves/lambs for scours and dehydration
6.0.5.3 Define and identify common diseases for each species
6.0.5.4 Follow vaccination program
6.0.5.5 Provide clean, dry, draft-free environment

COMPETENCY 6.0.6: Manage medications, chemicals, and instruments

COMPETENCY BUILDERS:

6.0.6.1 Follow general safety precautions
6.0.6.2 Store properly labeled medications and chemicals
6.0.6.3 Demonstrate proper use and care of instruments
6.0.6.4 Dispose of unused or outdated medications and chemicals
6.0.6.5 Dispose of used syringes and needles
6.0.6.6 Maintain inventory-and-use record
6.0.6.7 Follow government regulations

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COMPETENCY 6.0.7: Perform basic herd and flock practices

COMPETENCY BUILDERS:

6.0.7.1 Follow general safety precautions
6.0.7.2 Castrate animals
6.0.7.3 Dock lambs
6.0.7.4 Trim hooves
6.0.7.5 Inject implants
6.0.7.6 Stomach tube lambs
6.0.7.7 Worm animals
6.0.7.8 Dehorn animals*

UNIT 7: Marketing

COMPETENCY 7.0.1: Analyze market

COMPETENCY BUILDERS:

7.0.1.1 Explore all marketing opportunities
7.0.1.2 Research demand for finished product
7.0.1.3 Explain marketing terminology
7.0.1.4 Evaluate effect market grades have on market prices
7.0.1.5 Verify daily cash and future prices and determine local basis
7.0.1.6 Calculate net market prices
7.0.1.7 Evaluate niche marketing
7.0.1.8 Interpret market reports*
7.0.1.9 Analyze market cycles and trends*

COMPETENCY 7.0.2: Establish marketing plans

COMPETENCY BUILDERS:

7.0.2.1 Evaluate options of feeding grains, purchasing feeds, or marketing grains
7.0.2.2 Evaluate marketing options
7.0.2.3 Develop marketing plan for farm operation
7.0.2.4 Verify marketing plan

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COMPETENCY 7.0.3: Market products

COMPETENCY BUILDERS:

7.0.3.1 Determine when to market
7.0.3.2 Determine individual buyer requirements
7.0.3.3 Verify market grades or classes of products sold
7.0.3.4 Consign animals to sales
7.0.3.5 Explain purpose of Packer and Stockyards Act
7.0.3.6 Explain purpose of checkoff funds
7.0.3.7 Prepare advertisements and promotional activities
7.0.3.8 Estimate market grades
7.0.3.9 Identify USDA grades
7.0.3.10 Complete delayed price transaction*
7.0.3.11 Complete hedging transaction*
7.0.3.12 Complete forward contract transaction*

COMPETENCY 7.0.4: Ship products

COMPETENCY BUILDERS:

7.0.4.1 Follow general safety precautions
7.0.4.2 Arrange and verify cost of crop or livestock transport
7.0.4.3 Prepare vehicle and load crops, livestock, or wool
7.0.4.4 Transport and unload crops, livestock, or wool
7.0.4.5 Calculate livestock shrinkage
7.0.4.6 Verify weights, grades, and prices on sales ticket

UNIT 8: Business Management

COMPETENCY 8.0.1: Perform general office work

COMPETENCY BUILDERS:

8.0.1.1 Process incoming and outgoing mail
8.0.1.2 Establish filing system
8.0.1.3 File materials (e.g., equipment manuals)
8.0.1.4 Schedule and hold appointments
8.0.1.5 Use telephone
8.0.1.6 Write correspondence
8.0.1.7 Operate computer
8.0.1.8 Use two-way radio

* advanced
** futuring

COMPETENCY 8.0.2: Perform general banking procedures

COMPETENCY BUILDERS:

8.0.2.1 Write checks
8.0.2.2 Prepare bank deposit slips and make bank deposits
8.0.2.3 Balance bank statements
8.0.2.4 Explain purpose of electronic transfer of funds

COMPETENCY 8.0.3: Inventory business

COMPETENCY BUILDERS:

8.0.3.1 Establish inventory system
8.0.3.2 Take physical inventory of structures, facilities, equipment, and livestock
8.0.3.3 Calculate amount of grain and forage
8.0.3.4 Determine volume or capacity of storage facilities
8.0.3.5 Categorize inventory items as current, intermediate, or long-term assets
8.0.3.6 Determine current market value for inventory items
8.0.3.7 Determine cost of carrying inventory

COMPETENCY 8.0.4: Supervise and manage labor*

COMPETENCY BUILDERS:

8.0.4.1 Determine amount of labor needed*
8.0.4.2 Evaluate hiring labor versus contracting services*
8.0.4.3 Prepare for periods of peak work loads*
8.0.4.4 Establish pay scale, benefits, and incentives*
8.0.4.5 Follow state and federal wage and labor regulations*
8.0.4.6 Hire workers*
8.0.4.7 Plan work schedules*
8.0.4.8 Train workers*
8.0.4.9 Evaluate worker performance*
8.0.4.10 Establish job termination procedures*
8.0.4.11 Work sheepdogs*

COMPETENCY 8.0.5: Maintain supplies

COMPETENCY BUILDERS:

8.0.5.1 Set minimum and maximum inventory levels
8.0.5.2 Regulate storage facility environment
8.0.5.3 Compare costs and quality of supplies from different sources
8.0.5.4 Purchase supplies

* advanced
** futuring

COMPETENCY 8.0.6: Complete financial and tax records

COMPETENCY BUILDERS:

8.0.6.1 Maintain record-keeping system
8.0.6.2 Record receipts, expenses, and mileage
8.0.6.3 Use computer software package to do financial records
8.0.6.4 Maintain livestock and crop enterprise records
8.0.6.5 Maintain accounts payable and receivable record
8.0.6.6 Evaluate cash versus accrual reporting methods
8.0.6.7 Maintain payroll records
8.0.6.8 Determine depreciation method
8.0.6.9 Compute book value of depreciable assets
8.0.6.10 Calculate and record depreciation

COMPETENCY 8.0.7: Complete general and production records

COMPETENCY BUILDERS:

8.0.7.1 Maintain inventory records
8.0.7.2 Maintain crop production records
8.0.7.3 Maintain labor records
8.0.7.4 Maintain livestock production records
8.0.7.5 Maintain accident records
8.0.7.6 Maintain pedigree records
8.0.7.7 Maintain equipment service records
8.0.7.8 Maintain health records
8.0.7.9 Determine field acreage using actual measurements and scale maps
8.0.7.10 Draw and interpret farm map including field boundaries, major soil types, topography, vegetation, surface drainage, and travel areas
8.0.7.11 Draw and interpret farm map of subsurface drainage system

COMPETENCY 8.0.8: Summarize and analyze business records

COMPETENCY BUILDERS:

8.0.8.1 Make ten-month summary of cash expenses and receipts
8.0.8.2 Calculate efficiency factors
8.0.8.3 Calculate family labor and management income
8.0.8.4 Determine net income and profit
8.0.8.5 Analyze and compare use of capital with standards for similar farms
8.0.8.6 Prepare income statement
8.0.8.7 Prepare balance sheet
8.0.8.8 Determine effectiveness of management practices

* advanced
** futuring

COMPETENCY 8.0.9: Apply time management skills*

COMPETENCY BUILDERS:

8.0.9.1 Establish time management system*
8.0.9.2 Prioritize duties to perform*
8.0.9.3 Determine resource management*
8.0.9.4 Use technology to enhance management skills*

COMPETENCY 8.0.10: Finance business

COMPETENCY BUILDERS:

8.0.10.1 Identify credit strengths and weaknesses that affect credit rating
8.0.10.2 Develop cash flow projections
8.0.10.3 Establish budget
8.0.10.4 Evaluate risks of using borrowed capital
8.0.10.5 Plan one-year, intermediate, and long-term credit needs
8.0.10.6 Identify and evaluate credit sources
8.0.10.7 Evaluate loan repayment terms and conditions
8.0.10.8 Negotiate credit plan
8.0.10.9 Calculate cost of loan
8.0.10.10 Fill out loan application
8.0.10.11 Sign loan agreement
8.0.10.12 Maintain balance of savings and cash
8.0.10.13 Make loan payments

COMPETENCY 8.0.11: Contribute to industry growth

COMPETENCY BUILDERS:

8.0.11.1 Conduct promotional activities
8.0.11.2 Encourage legislation supporting industry
8.0.11.3 Participate in association/industry groups

* advanced
** futuring

COMPETENCY 8.0.12: Prepare and file tax forms

COMPETENCY BUILDERS:

8.0.12.1 Calculate property taxes
8.0.12.2 Evaluate tax consultant service
8.0.12.3 Determine amount of social security to be paid
8.0.12.4 Complete tax exemption form
8.0.12.5 Estimate income tax
8.0.12.6 Prepare federal income tax FICA schedule
8.0.12.7 Prepare federal income tax capital gains or loss schedule
8.0.12.8 Prepare federal income tax form 1040
8.0.12.9 Prepare state income tax form
8.0.12.10 Apply for refund for nonhighway use of federal and state fuel tax

COMPETENCY 8.0.13: Plan insurance coverage

COMPETENCY BUILDERS:

8.0.13.1 Determine type and amount of insurance needed
8.0.13.2 Evaluate different types of insurance
8.0.13.3 Identify insurance providers and evaluate programs
8.0.13.4 Complete insurance application and purchase insurance
8.0.13.5 Complete and file claim forms

COMPETENCY 8.0.14: Follow legal requirements

COMPETENCY BUILDERS:

8.0.14.1 Identify government agencies regulating beef and sheep operations
8.0.14.2 Comply with employers' and employees' legal responsibilities
8.0.14.3 Comply with Workers Compensation responsibilities
8.0.14.4 Establish system for government regulation compliance
8.0.14.5 Explain debt restructuring purposes and processes

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COMPETENCY 8.0.15: Obtain land

COMPETENCY BUILDERS:

8.0.15.1 Determine amount of land needed
8.0.15.2 Determine amount of capital available for obtaining land
8.0.15.3 Determine cost effectiveness of purchasing, leasing, or renting land
8.0.15.4 Appraise available land and identify factors influencing use
8.0.15.5 Evaluate and complete lease agreement
8.0.15.6 Evaluate land price cycles and determine when to purchase
8.0.15.7 Purchase land

COMPETENCY 8.0.16: Plan structures

COMPETENCY BUILDERS:

8.0.16.1 Calculate space requirement for various livestock
8.0.16.2 Estimate structure needs
8.0.16.3 Calculate returns expected from structure investments
8.0.16.4 Calculate construction, remodeling, and repair costs
8.0.16.5 Determine locations of new structures
8.0.16.6 Build or lease structures
8.0.16.7 Determine zoning requirements

COMPETENCY 8.0.17: Manage equipment program

COMPETENCY BUILDERS:

8.0.17.1 Determine equipment needs
8.0.17.2 Determine whether to purchase or lease equipment, or to hire work done
8.0.17.3 Determine whether to repair or trade in equipment
8.0.17.4 Determine whether to do custom work for others
8.0.17.5 Estimate returns expected from equipment investments
8.0.17.6 Evaluate advantages and disadvantages of different types and brands of equipment
8.0.17.7 Evaluate joint ownership of equipment

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COMPETENCY 8.0.18: Purchase livestock

COMPETENCY BUILDERS:

8.0.18.1 Determine types, numbers, and frame size of livestock
8.0.18.2 Verify health and soundness of animals
8.0.18.3 Identify purchase sources
8.0.18.4 Explain regulations pertaining to interstate shipment of livestock
8.0.18.5 Evaluate raising versus buying replacements
8.0.18.6 Evaluate custom feeding and retained ownership of livestock
8.0.18.7 Verify registration papers for purebred animals
8.0.18.8 Interpret production records
8.0.18.9 Negotiate purchase price

COMPETENCY 8.0.19: Enter, establish, and expand business

COMPETENCY BUILDERS:

8.0.19.1 Communicate enterprise goals
8.0.19.2 Evaluate costs and returns for various enterprises
8.0.19.3 Evaluate options of sole proprietorships, cooperatives, corporations,or partnerships
8.0.19.4 Determine type of business organization
8.0.19.5 Decide whether to specialize or diversify
8.0.19.6 Develop plan for adjusting management practices
8.0.19.7 Determine when to secure professional help
8.0.19.8 Establish land use plan

COMPETENCY 8.0.20: Plan retirement and estate

COMPETENCY BUILDERS:

8.0.20.1 Evaluate retirement program options
8.0.20.2 Plan orderly transfer of property
8.0.20.3 Transfer ownership or sell farm
8.0.20.4 Develop plan for bestowing estate
8.0.20.5 Identify payment methods for estate and gift taxes
8.0.20.6 Make a will

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UNIT 9: Agricultural Mechanics

COMPETENCY 9.0.1: Operate and maintain small engines

COMPETENCY BUILDERS:

9.0.1.1 Follow general safety precautions
9.0.1.2 Check fuel and fuel engine
9.0.1.3 Schedule fluid and filter changes
9.0.1.4 Select oil
9.0.1.5 Check oil level and change oil and oil filters
9.0.1.6 Start, operate, and shut down engine
9.0.1.7 Mix gas and oil for two-cycle engine
9.0.1.8 Clean external engine components
9.0.1.9 Service air cleaner
9.0.1.10 Remove, clean, and regap spark plugs
9.0.1.11 Replace starter cord
9.0.1.12 Remove manifold carbon deposits
9.0.1.13 Service and clean crankcase breathers
9.0.1.14 Service and clean fuel strainer
9.0.1.15 Check and service battery
9.0.1.16 Troubleshoot problems
9.0.1.17 Store engine
9.0.1.18 Pull and replace flywheel and clutch assembly*
9.0.1.19 Clean and adjust carburetor*
9.0.1.20 Check engine compression*

COMPETENCY 9.0.2: Service cooling systems for large engines

COMPETENCY BUILDERS:

9.0.2.1 Follow general safety precautions
9.0.2.2 Test antifreeze
9.0.2.3 Add radiator coolant
9.0.2.4 Replace hoses
9.0.2.5 Flush cooling system
9.0.2.6 Test thermostat
9.0.2.7 Replace thermostat
9.0.2.8 Troubleshoot problems
9.0.2.9 Replace water pump*
9.0.2.10 Replace radiator*

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COMPETENCY 9.0.3: Service lubrication systems for large engines

COMPETENCY BUILDERS:

9.0.3.1 Follow general safety precautions
9.0.3.2 Select oil
9.0.3.3 Change oil and oil filters
9.0.3.4 Lubricate equipment
9.0.3.5 Maintain grease fittings
9.0.3.6 Troubleshoot problems
9.0.3.7 Repack bearings*
9.0.3.8 Remove and replace oil seal*

COMPETENCY 9.0.4: Service fuel and air systems for large engines

COMPETENCY BUILDERS:

9.0.4.1 Follow general safety precautions
9.0.4.2 Service air cleaner
9.0.4.3 Bleed diesel fuel system
9.0.4.4 Service fuel strainer, filters, and sediment bowl
9.0.4.5 Troubleshoot problems
9.0.4.6 Clean carburetor*
9.0.4.7 Perform basic carburetor overhaul*
9.0.4.8 Adjust engine governor*
9.0.4.9 Adjust engine valves*
9.0.4.10 Replace exhaust system components*
9.0.4.11 Replace fuel pump*

COMPETENCY 9.0.5: Maintain and service electrical systems for large engines

COMPETENCY BUILDERS:

9.0.5.1 Follow general safety precautions
9.0.5.2 Install battery
9.0.5.3 Clean and treat battery terminals, cables, and battery box
9.0.5.4 Charge battery
9.0.5.5 Replace fuses and light bulbs
9.0.5.6 Replace distributor cap and rotor
9.0.5.7 Replace spark plugs and wires
9.0.5.8 Clean and adjust spark plug gap
9.0.5.9 Check specific gravity of battery
9.0.5.10 Troubleshoot problems
9.0.5.11 Check ammeter*
9.0.5.12 Time engine*
9.0.5.13 Inspect, adjust, or change breaker points*

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COMPETENCY 9.0.6: Service belt and drive chain assemblies*

COMPETENCY BUILDERS:

9.0.6.1 Follow general safety precautions*
9.0.6.2 Replace belts*
9.0.6.3 Maintain gear drives*
9.0.6.4 Clean sprockets, chains, and gears*
9.0.6.5 Replace gears*
9.0.6.6 Replace and adjust chains*
9.0.6.7 Replace pulleys*
9.0.6.8 Replace rollers*
9.0.6.9 Clean and lubricate drive parts*
9.0.6.10 Troubleshoot problems*

COMPETENCY 9.0.7: Repair and service wheels, tires, and tracks

COMPETENCY BUILDERS:

9.0.7.1 Follow general safety precautions
9.0.7.2 Check tire pressure
9.0.7.3 Check and tighten lug nuts
9.0.7.4 Protect tires during equipment storage
9.0.7.5 Replace implement wheels
9.0.7.6 Adjust wheel spacing*
9.0.7.7 Service wheel bearing assembly*
9.0.7.8 Patch tire*

COMPETENCY 9.0.8: Service hydraulic systems

COMPETENCY BUILDERS:

9.0.8.1 Follow general safety precautions
9.0.8.2 Check and add oil
9.0.8.3 Check gauges each operation
9.0.8.4 Replace oil filter
9.0.8.5 Troubleshoot problems
9.0.8.6 Bleed air from system*
9.0.8.7 Drain, clean, flush, and refill hydraulic system*

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COMPETENCY 9.0.9: Hitch equipment to power units

COMPETENCY BUILDERS:

9.0.9.1 Follow general safety precautions
9.0.9.2 Connect front-end-operated equipment
9.0.9.3 Connect 3-point-hitch equipment
9.0.9.4 Attach and detach PTO equipment
9.0.9.5 Hitch towed equipment
9.0.9.6 Connect hydraulic systems and equipment
9.0.9.7 Connect electrical hookups
9.0.9.8 Connect safety chains

COMPETENCY 9.0.10: Operate equipment and vehicles

COMPETENCY BUILDERS:

9.0.10.1 Follow general safety precautions
9.0.10.2 Identify engine fundamentals
9.0.10.3 Refuel power units
9.0.10.4 Add wheel and front-end weights
9.0.10.5 Check prestart mechanism
9.0.10.6 Start engine
9.0.10.7 Read equipment gauges
9.0.10.8 Operate equipment and vehicles under work conditions and on public roads according to certification standards
9.0.10.9 Use hand operating signals
9.0.10.10 Adjust equipment and vehicles

COMPETENCY 9.0.11: Identify components of material handling systems

COMPETENCY BUILDERS:

9.0.11.1 Identify components of silo loaders
9.0.11.2 Identify components of manure handling equipment
9.0.11.3 Identify components of grain handling equipment
9.0.11.4 Identify components of feed handling equipment
9.0.11.5 Identify safety hazards of material handling equipment

COMPETENCY 9.0.12: Operate material handling equipment

COMPETENCY BUILDERS:

9.0.12.1 Follow general safety precautions
9.0.12.2 Identify equipment
9.0.12.3 Adjust equipment

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COMPETENCY 9.0.13: Clean and store equipment

COMPETENCY BUILDERS:

9.0.13.1 Follow general safety precautions
9.0.13.2 Remove debris from equipment
9.0.13.3 Steam or high-pressure wash equipment
9.0.13.4 Protect equipment from weather
9.0.13.5 Lubricate for storage

COMPETENCY 9.0.14: Plan construction of farm structures

COMPETENCY BUILDERS:

9.0.14.1 Follow general safety precautions
9.0.14.2 Calculate board footage of lumber
9.0.14.3 Identify nominal and dressed sizes of lumber
9.0.14.4 Select types of structures required
9.0.14.5 Determine space requirements
9.0.14.6 Design plans for new structures or improvement or expansion of current structures
9.0.14.7 Interpret blueprints
9.0.14.8 Develop bill of materials
9.0.14.9 Select building materials
9.0.14.10 Identify grading categories for softwood and for hardwood
9.0.14.11 Excavate structure sites for concrete pouring

COMPETENCY 9.0.15: Construct with concrete

COMPETENCY BUILDERS:

9.0.15.1 Follow general safety precautions
9.0.15.2 Use survey level
9.0.15.3 Calculate volume of concrete to order or mix
9.0.15.4 Select concrete materials
9.0.15.5 Build and remove concrete forms
9.0.15.6 Order concrete
9.0.15.7 Mix and pour concrete
9.0.15.8 Install concrete reinforcement
9.0.15.9 Evaluate concrete slump
9.0.15.10 Finish concrete surface
9.0.15.11 Cure concrete
9.0.15.12 Mix mortar
9.0.15.13 Lay blocks*

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COMPETENCY 9.0.16: Construct with wood

COMPETENCY BUILDERS:

9.0.16.1 Follow general safety precautions
9.0.16.2 Identify types of lumber
9.0.16.3 Cut lumber to dimension
9.0.16.4 Stack, season, and store lumber
9.0.16.5 Install and repair bracing
9.0.16.6 Install and repair wood siding
9.0.16.7 Install and repair doors and hardware
9.0.16.8 Repair minor leaks in roof
9.0.16.9 Replace window panes
9.0.16.10 Cut and fit joints
9.0.16.11 Select and apply metal fasteners
9.0.16.12 Assemble joints with glue
9.0.16.13 Select and install insulation

COMPETENCY 9.0.17: Plan electrical installations*

COMPETENCY BUILDERS:

9.0.17.1 Follow general safety precautions*
9.0.17.2 Determine electrical needs*
9.0.17.3 Plan wiring layouts*
9.0.17.4 Plan distribution system*
9.0.17.5 Plan service entrance*
9.0.17.6 Select wire and electrical supplies*
9.0.17.7 Determine total cost of materials*
9.0.17.8 Select alternative electrical sources*

COMPETENCY 9.0.18: Install and maintain electrical systems

COMPETENCY BUILDERS:

9.0.18.1 Follow general safety precautions
9.0.18.2 Read electric meter
9.0.18.3 Replace circuit breakers and fuses
9.0.18.4 Repair and replace electrical cord
9.0.18.5 Connect and disconnect alternative power sources
9.0.18.6 Select and use tools, measuring devices, and other equipment
9.0.18.7 Wire electrical circuits
9.0.18.8 Replace lighting fixtures
9.0.18.9 Clean and lubricate motors
9.0.18.10 Maintain records of electrical maintenance
9.0.18.11 Install and maintain electric motors on structure
9.0.18.12 Troubleshoot problems

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COMPETENCY 9.0.19: Install and maintain water systems

COMPETENCY BUILDERS:

9.0.19.1 Follow general safety precautions
9.0.19.2 Cut and fit pipe or tubing
9.0.19.3 Thread metal pipe
9.0.19.4 Install and repair pipe and pipe fittings
9.0.19.5 Determine required quantity and quality of water
9.0.19.6 Select water source
9.0.19.7 Determine tools and equipment needed
9.0.19.8 Contract for system installation
9.0.19.9 Select pipe, pipe fittings, insulation, and plumbing fixtures
9.0.19.10 Determine cost of materials
9.0.19.11 Install and repair valves and faucets
9.0.19.12 Install insulation and filter
9.0.19.13 Maintain plumbing
9.0.19.14 Troubleshoot problems
9.0.19.15 Troubleshoot and maintain automatic waterers
9.0.19.16 Plan system*

COMPETENCY 9.0.20: Install and maintain fencing

COMPETENCY BUILDERS:

9.0.20.1 Follow general safety precautions
9.0.20.2 Identify options in fencing systems
9.0.20.3 Install gates
9.0.20.4 Install fasteners
9.0.20.5 Determine amount of fence required
9.0.20.6 Select fencing materials
9.0.20.7 Select posts and braces
9.0.20.8 Select finish or preservative
9.0.20.9 Select fasteners
9.0.20.10 Install posts and braces
9.0.20.11 Lay out and stretch fence
9.0.20.12 Select and install electric charging units
9.0.20.13 Explain legal responsibilities of fence ownership

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COMPETENCY 9.0.21: Use and maintain hand and power tools

COMPETENCY BUILDERS:

9.0.21.1 Follow general safety precautions
9.0.21.2 Identify tools
9.0.21.3 Select tools
9.0.21.4 Follow operation instructions
9.0.21.5 Set up and adjust tools
9.0.21.6 Clean and lubricate tools
9.0.21.7 Store tools
9.0.21.8 Sharpen and maintain tools

COMPETENCY 9.0.22: Weld with gas

COMPETENCY BUILDERS:

9.0.22.1 Follow general safety precautions
9.0.22.2 Set up and adjust gas welding equipment
9.0.22.3 Select rod
9.0.22.4 Select and apply flux
9.0.22.5 Cut metal
9.0.22.6 Clean and store gas welding equipment
9.0.22.7 Secure and store gas cylinders
9.0.22.8 Make lap weld*
9.0.22.9 Make butt weld*
9.0.22.10 Make fillet weld*
9.0.22.11 Weld steel in horizontal and nonhorizontal positions*
9.0.22.12 Weld steel with filler rod*
9.0.22.13 Weld steel by fusion*
9.0.22.14 Braze metal*
9.0.22.15 Hardsurface metal*

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COMPETENCY 9.0.23: Weld with electric arc and MIG

COMPETENCY BUILDERS:

9.0.23.1 Follow general safety precautions
9.0.23.2 Select welding equipment and accessories
9.0.23.3 Select electrode sizes and types
9.0.23.4 Select settings
9.0.23.5 Prepare metal
9.0.23.6 Weld steel in horizontal positions
9.0.23.7 Clean and store welding equipment
9.0.23.8 Make lap weld*
9.0.23.9 Make butt weld*
9.0.23.10 Make fillet weld*
9.0.23.11 Weld pipe*
9.0.23.12 Cut metal using electrode*
9.0.23.13 Hardsurface metal*
9.0.23.14 Weld steel in nonhorizontal positions*
9.0.23.15 Weld cast iron*

COMPETENCY 9.0.24: Fabricate with metal*

COMPETENCY BUILDERS:

9.0.24.1 Follow general safety precautions*
9.0.24.2 Design metal project*
9.0.24.3 Prepare bill of materials*
9.0.24.4 Identify types of metal*
9.0.24.5 Identify nominal sizes of metal*
9.0.24.6 Determine metal properties*
9.0.24.7 Test metal for type and hardness*
9.0.24.8 Punch and drill metal*
9.0.24.9 Cut metal*
9.0.24.10 Select thread and size for tap or die*
9.0.24.11 Grind metal*
9.0.24.12 Attach hardware to sheet metal*
9.0.24.13 Store metal*
9.0.24.14 Join metal with pop rivets*
9.0.24.15 Bend sheet metal*
9.0.24.16 Join metal with spot welder*

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COMPETENCY 9.0.25: Solder*

COMPETENCY BUILDERS:

9.0.25.1 Follow general safety precautions*
9.0.25.2 Select soldering method*
9.0.25.3 Select tools*
9.0.25.4 Select flux*
9.0.25.5 Select solder*
9.0.25.6 Prepare surfaces*
9.0.25.7 Apply solder*
9.0.25.8 Clean equipment*

COMPETENCY 9.0.26: Apply protective coatings

COMPETENCY BUILDERS:

9.0.26.1 Follow general safety precautions
9.0.26.2 Determine type of coating
9.0.26.3 Select and use application tools
9.0.26.4 Use steam cleaner and pressure washer
9.0.26.5 Sand surface
9.0.26.6 Apply masking tape
9.0.26.7 Mix thinner
9.0.26.8 Apply primer coat
9.0.26.9 Apply finish coat
9.0.26.10 Use paint and varnish remover

UNIT 10: Crop/Forage Production

COMPETENCY 10.0.1: Evaluate and manage soil

COMPETENCY BUILDERS:

10.0.1.1 Evaluate soil drainage
10.0.1.2 Identify soil texture and percent organic matter
10.0.1.3 Identify soil structure and type
10.0.1.4 Determine slope
10.0.1.5 Determine soil use capability for agriculture
10.0.1.6 Determine suitability of soil for nonagricultural uses
10.0.1.7 Evaluate problems affecting soil use and management
10.0.1.8 Determine and implement management and conservation practices
10.0.1.9 Follow government regulations and guidelines

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COMPETENCY 10.0.2: Plan crop planting

COMPETENCY BUILDERS:

10.0.2.1 Identify seeds
10.0.2.2 Interpret seed tag information
10.0.2.3 Determine crops to plant
10.0.2.4 Establish crop rotation
10.0.2.5 Select seed
10.0.2.6 Conduct seed germination and vigor tests
10.0.2.7 Inoculate seed
10.0.2.8 Determine seeding rate
10.0.2.9 Store seed

COMPETENCY 10.0.3: Plant and till crops

COMPETENCY BUILDERS:

10.0.3.1 Follow general safety precautions
10.0.3.2 Select planting or seeding method and date
10.0.3.3 Prepare seedbed according to chosen planting method
10.0.3.4 Determine planting depth and rate
10.0.3.5 Calibrate planting equipment
10.0.3.6 Operate planting equipment
10.0.3.7 Compact seedbed after seeding
10.0.3.8 Cultivate crops
10.0.3.9 Identify planting failure problems

COMPETENCY 10.0.4: Test soil and plant tissues

COMPETENCY BUILDERS:

10.0.4.1 Take soil samples
10.0.4.2 Submit prepared soil samples and forms to analysis laboratory
10.0.4.3 Interpret soil analysis results
10.0.4.4 Take plant tissue samples
10.0.4.5 Submit prepared plant tissue samples and forms to analysis laboratory
10.0.4.6 Interpret plant analysis results

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COMPETENCY 10.0.5: Determine fertilization needs

COMPETENCY BUILDERS:

10.0.5.1 Identify factors influencing fertilizer requirements
10.0.5.2 Define meaning of NPK and trace elements on fertilizer information
10.0.5.3 Use soil analysis results to determine nutrient levels
10.0.5.4 Determine crop nutrient needs
10.0.5.5 Identify plant nutrient deficiency symptoms
10.0.5.6 Determine amount and kind of nutrients and lime to apply
10.0.5.7 Evaluate effect leaching has on nutrient availability
10.0.5.8 Evaluate influence soil pH has on nutrient availability
10.0.5.9 Maintain pH levels for crops grown
10.0.5.10 Estimate costs of lime and fertilizer recommendations
10.0.5.11 Develop fertilization plan

COMPETENCY 10.0.6: Fertilize crops

COMPETENCY BUILDERS:

10.0.6.1 Follow general safety precautions
10.0.6.2 Analyze and interpret manure sample information
10.0.6.3 Interpret fertilization rate charts
10.0.6.4 Select fertilizer analysis
10.0.6.5 Select fertilizer application method
10.0.6.6 Determine time for fertilizer application
10.0.6.7 Mix fertilizer solutions
10.0.6.8 Calibrate fertilizer application equipment
10.0.6.9 Adjust fertilizer application rates
10.0.6.10 Identify safety factors involved in handling NH3
10.0.6.11 Apply fertilizer
10.0.6.12 Recognize signs of fertilizer injury
10.0.6.13 Transfer liquid fertilizer from nurse tank to applicator*

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COMPETENCY 10.0.7: Control insects and diseases

COMPETENCY BUILDERS:

10.0.7.1 Follow general safety precautions
10.0.7.2 Inspect crops and determine when controls are needed
10.0.7.3 Follow chemical use regulations
10.0.7.4 Complete prescribed certification requirements
10.0.7.5 Calibrate application equipment
10.0.7.6 Recognize chemical injury
10.0.7.7 Maintain application record
10.0.7.8 Recognize insect injury
10.0.7.9 Evaluate options and select control method*
10.0.7.10 Interpret chemical labels and compatibility charts*
10.0.7.11 Select and apply chemicals*
10.0.7.12 Apply biological control methods*

COMPETENCY 10.0.8: Control weeds

COMPETENCY BUILDERS:

10.0.8.1 Follow general safety precautions
10.0.8.2 Identify plants as monocots or dicots
10.0.8.3 Identify plants as annuals, biennials, or perennials
10.0.8.4 Identify plant parts and functions
10.0.8.5 Determine type of control needed
10.0.8.6 Interpret chemical labels and compatibility charts
10.0.8.7 Calibrate application equipment
10.0.8.8 Follow chemical use regulations
10.0.8.9 Maintain application record
10.0.8.10 Recognize chemical injury
10.0.8.11 Cultivate fields
10.0.8.12 Clip fields
10.0.8.13 Rotate crops
10.0.8.14 Select and apply chemicals*
10.0.8.15 Apply biological control methods*

COMPETENCY 10.0.9: Apply pesticides

COMPETENCY BUILDERS:

10.0.9.1 Follow general safety precautions
10.0.9.2 Use proper handling procedures
10.0.9.3 Wear protective clothing and equipment
10.0.9.4 Follow proper cleaning and storing procedures
10.0.9.5 Mix and load chemical application equipment*
10.0.9.6 Dispose of containers in proper manner*

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COMPETENCY 10.0.10: Harvest grain crops

COMPETENCY BUILDERS:

10.0.10.1 Follow general safety precautions
10.0.10.2 Determine crop maturity
10.0.10.3 Determine proper conditions for harvesting
10.0.10.4 Determine moisture content
10.0.10.5 Determine acreage to harvest at one time
10.0.10.6 Combine grain crops
10.0.10.7 Clip grain stubble after harvesting
10.0.10.8 Determine harvest losses
10.0.10.9 Determine yields

COMPETENCY 10.0.11: Harvest and manage forages

COMPETENCY BUILDERS:

10.0.11.1 Follow general safety precautions
10.0.11.2 Determine crop maturity
10.0.11.3 Determine moisture content
10.0.11.4 Determine forage cuttings to harvest
10.0.11.5 Determine acreage to cut at one time
10.0.11.6 Determine proper harvesting conditions
10.0.11.7 Cut and condition hay
10.0.11.8 Rake and ted hay
10.0.11.9 Evaluate harvesting methods
10.0.11.10 Bale dried forages and bedding materials
10.0.11.11 Cut forages for green chop feeding
10.0.11.12 Determine harvest yields and nutritional content
10.0.11.13 Determine grazing intervals and stocking rates
10.0.11.14 Evaluate grazing methods

COMPETENCY 10.0.12: Store crops

COMPETENCY BUILDERS:

10.0.12.1 Follow general safety precautions
10.0.12.2 Estimate amount of storage needed
10.0.12.3 Select storage facilities
10.0.12.4 Load and unload bales
10.0.12.5 Unload grain wagons
10.0.12.6 Unload silage wagons
10.0.12.7 Stack bales
10.0.12.8 Fill silo, bags and balage
10.0.12.9 Evaluate need for silage and hay additives
10.0.12.10 Estimate amount of grain in storage
10.0.12.11 Estimate amount of forage in storage

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COMPETENCY 10.0.13: Maintain quality of stored crops

COMPETENCY BUILDERS:

10.0.13.1 Follow general safety precautions
10.0.13.2 Clean storage areas
10.0.13.3 Use grain probe to collect crop samples
10.0.13.4 Determine moisture content
10.0.13.5 Determine condition of stored crops
10.0.13.6 Determine safe moisture content for storing grains and forages
10.0.13.7 Treat storage areas for pests*
10.0.13.8 Control temperature and humidity in storage areas*
10.0.13.9 Operate dryer and fans*
10.0.13.10 Identify storage problems*

UNIT 11: Employability Skills

SUBUNIT 11.1: Career Development

COMPETENCY 11.1.1: Investigate career options

COMPETENCY BUILDERS:

11.1.1.1 Determine interests and aptitudes
11.1.1.2 Identify career options
11.1.1.3 Research occupations matching interests and aptitudes
11.1.1.4 Select career(s) that best match(es) interests and aptitudes
11.1.1.5 Identify advantages and disadvantages of career options, including nontraditional careers
11.1.1.6 Assess differences in wages, annual incomes, and job opportunities based on geographic location
11.1.1.7 Develop a career plan

COMPETENCY 11.1.2: Analyze potential barriers to employment

COMPETENCY BUILDERS:

11.1.2.1 Identify common barriers to employment
11.1.2.2 Develop strategies to overcome employment barriers

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UNIT 11: Employability Skills

SUBUNIT 11.2: Decision Making and Problem Solving

COMPETENCY 11.2.1: Apply decision-making techniques in the workplace

COMPETENCY BUILDERS:

11.2.1.1 Identify the decision to be made
11.2.1.2 Compare alternatives
11.2.1.3 Determine consequences of each alternative
11.2.1.4 Make decisions based on values and goals
11.2.1.5 Evaluate the decision made

COMPETENCY 11.2.2: Apply problem-solving techniques in the workplace

COMPETENCY BUILDERS:

11.2.2.1 Diagnose the problem and its causes
11.2.2.2 Identify alternatives and their consequences in relation to the problem
11.2.2.3 Examine multicultural and nonsexist dimensions of problem solving
11.2.2.4 Utilize resources to explore possible solutions to the problem
11.2.2.5 Compare and contrast the advantages and disadvantages of each solution
11.2.2.6 Determine appropriate action
11.2.2.7 Evaluate results

UNIT 11: Employability Skills

SUBUNIT 11.3: Work Ethic

COMPETENCY 11.3.1: Evaluate the relationship of self-esteem to work ethic

COMPETENCY BUILDERS:

11.3.1.1 Identify special characteristics and abilities in self and others
11.3.1.2 Identify internal and external factors that affect self-esteem

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COMPETENCY 11.3.2: Analyze the relationship of personal values and goals to work ethic both in and out of the workplace

COMPETENCY BUILDERS:

11.3.2.1 Distinguish between values and goals
11.3.2.2 Determine the importance of values and goals
11.3.2.3 Evaluate how values affect goals
11.3.2.4 Identify short-term and long-term goals
11.3.2.5 Prioritize personal goals
11.3.2.6 Describe how personal values are reflected in work ethic
11.3.2.7 Describe how interactions in the workplace affect personal work ethic
11.3.2.8 Examine how life changes affect personal work ethic

COMPETENCY 11.3.3: Demonstrate work ethic

COMPETENCY BUILDERS:

11.3.3.1 Examine factors that influence work ethic
11.3.3.2 Exhibit characteristics that reflect an appropriate work ethic

UNIT 11: Employability Skills

SUBUNIT 11.4: Job-Seeking Skills

COMPETENCY 11.4.1: Prepare for employment

COMPETENCY BUILDERS:

11.4.1.1 Identify traditional and nontraditional employment sources
11.4.1.2 Utilize employment sources
11.4.1.3 Research job opportunities, including nontraditional careers
11.4.1.4 Interpret equal employment opportunity laws
11.4.1.5 Explain the critical importance of personal appearance, hygiene, and demeanor throughout the employment process
11.4.1.6 Prepare for generic employment tests and those specific to an occupation/organization

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COMPETENCY 11.4.2: Design a résumé

COMPETENCY BUILDERS:

11.4.2.1 Identify personal strengths and weaknesses
11.4.2.2 List skills and/or abilities, career objective(s), accomplishments/achievements, educational background, and work experience
11.4.2.3 Demonstrate legible written communication skills using correct grammar, spelling, and concise wording
11.4.2.4 Complete résumé using various formats
11.4.2.5 Secure references

COMPETENCY 11.4.3: Complete and process job application forms

COMPETENCY BUILDERS:

11.4.3.1 Explain the importance of an application form
11.4.3.2 Identify ways to obtain job application forms
11.4.3.3 Describe methods for handling illegal questions on job application forms
11.4.3.4 Demonstrate legible written communications skills using correct grammar, spelling, and concise wording
11.4.3.5 Return application to proper person, request interview, and follow up

COMPETENCY 11.4.4: Demonstrate interviewing skills

COMPETENCY BUILDERS

11.4.4.1 Investigate interview environment and procedures
11.4.4.2 Explain the critical importance of personal appearance, hygiene, and demeanor
11.4.4.3 Demonstrate question and answer techniques
11.4.4.4 Demonstrate methods for handling difficult and/or illegal interview questions

COMPETENCY 11.4.5: Secure employment

COMPETENCY BUILDERS:

11.4.5.1 Identify present and future employment opportunities within an occupation/organization
11.4.5.2 Research the organization/company
11.4.5.3 Use follow-up techniques to enhance employment potential
11.4.5.4 Compare and evaluate job offers

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UNIT 11: Employability Skills

SUBUNIT 11.5: Job Retention Skills

COMPETENCY 11.5.1: Analyze the organizational structure of the workplace

COMPETENCY BUILDERS:

11.5.1.1 Identify and evaluate employer expectations regarding job performance, work habits, attitudes, personal appearance, and hygiene
11.5.1.2 Be aware of and obey all company policies and procedures
11.5.1.3 Examine the role/relationship between employee and employer
11.5.1.4 Recognize opportunities for advancement and reasons for termination

COMPETENCY 11.5.2: Maintain positive relations with others

COMPETENCY BUILDERS:

11.5.2.1 Exhibit appropriate work habits and attitude
11.5.2.2 Identify behaviors to establish successful working relationships
11.5.2.3 Cooperate and compromise through teamwork and group participation
11.5.2.4 Identify alternatives for dealing with harassment, bias, and discrimination based on race, color, national origin, sex, religion, handicap, or age

UNIT 11: Employability Skills

SUBUNIT 11.6: Job Advancement

COMPETENCY 11.6.1: Analyze opportunities for personal and career growth

COMPETENCY BUILDERS:

11.6.1.1 Determine opportunities within an occupation/organization
11.6.1.2 Compare and contrast other opportunities
11.6.1.3 List benefits of job advancement
11.6.1.4 Evaluate factors involved when assuming a new position within or outside an occupation/organization

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COMPETENCY 11.6.2: Exhibit characteristics needed for advancement

COMPETENCY BUILDERS:

11.6.2.1 Display a positive attitude
11.6.2.2 Demonstrate knowledge of a position
11.6.2.3 Perform quality work
11.6.2.4 Adapt to changing situations and technology
11.6.2.5 Demonstrate capability for different positions
11.6.2.6 Participate in continuing education/training programs
11.6.2.7 Respect, accept, and work with ALL individuals in the workplace

UNIT 11: Employability Skills

SUBUNIT 11.7: Technology in the Workplace

COMPETENCY 11.7.1: Assess the impact of technology in the workplace

COMPETENCY BUILDERS:

11.7.1.1 Cite how past business/industry practices have influenced present business/industry processes
11.7.1.2 Investigate the use of technology in the workplace
11.7.1.3 Analyze how present skills can be applied to learning new technologies

COMPETENCY 11.7.2: Use a variety of technological applications

COMPETENCY BUILDERS:

11.7.2.1 Explore basic mathematical, scientific, computer, and technological principles
11.7.2.2 Use technology to accomplish assigned tasks
11.7.2.3 Create solutions to problems using technical means

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UNIT 11: Employability Skills

SUBUNIT 11.8: Lifelong Learning

COMPETENCY 11.8.1: Apply lifelong learning to individual situations

COMPETENCY BUILDERS:

11.8.1.1 Define lifelong learning
11.8.1.2 Identify factors that cause the need for lifelong learning

COMPETENCY 11.8.2: Adapt to change

COMPETENCY BUILDERS:

11.8.2.1 Analyze the effects of change
11.8.2.2 Identify reasons why goals change
11.8.2.3 Describe the importance of flexibility when reevaluating goals
11.8.2.4 Evaluate the need for continuing education/training

UNIT 11: Employability Skills

SUBUNIT 11.9: Economic Education

COMPETENCY 11.9.1: Analyze global enterprise systems

COMPETENCY BUILDERS:

11.9.1.1 Identify characteristics of various enterprise systems
11.9.1.2 Examine the relationship between competition, risk, and profit
11.9.1.3 Illustrate how supply and demand influence price

COMPETENCY 11.9.2: Evaluate personal money management

COMPETENCY BUILDERS:

11.9.2.1 Describe the need for personal management records
11.9.2.2 Identify methods of taxation
11.9.2.3 Analyze how credit affects financial security
11.9.2.4 Compare types and methods of investments
11.9.2.5 Prepare a personal budget
11.9.2.6 Be an informed and responsible consumer
11.9.2.7 Analyze the effects of advertising on the consumer

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UNIT 11: Employability Skills

SUBUNIT 11.10: Balancing Work and Family

COMPETENCY 11.10.1: Analyze the effects of family on work

COMPETENCY BUILDERS:

11.10.1.1 Recognize how family values, goals, and priorities are reflected in the workplace
11.10.1.2 Identify present and future family structures and responsibilities
11.10.1.3 Describe personal and family roles
11.10.1.4 Analyze concerns of working parent(s)
11.10.1.5 Examine how family responsibilities can conflict with work
11.10.1.6 Resolve family-related conflicts
11.10.1.7 Explain how to use support systems/community resources to help resolve family-related conflicts

COMPETENCY 11.10.2: Analyze the effects of work on family

COMPETENCY BUILDERS:

11.10.2.1 Identify responsibilities associated with paid and nonpaid work
11.10.2.2 Compare the advantages and disadvantages of multiple incomes
11.10.2.3 Examine how work can conflict with family responsibilities
11.10.2.4 Describe how work-related stress can affect families
11.10.2.5 Identify family support systems and resources

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UNIT 11: Employability Skills

SUBUNIT 11.11: Citizenship in the Workplace

COMPETENCY 11.11.1: Exercise the rights and responsibilities of citizenship in the workplace

COMPETENCY BUILDERS:

11.11.1.1 Identify the basic rights and responsibilities of citizenship
11.11.1.2 Examine the history and contributions of all racial, ethnic, and cultural groups

COMPETENCY 11.11.2: Cooperate with others in the workplace

COMPETENCY BUILDERS:

11.11.2.1 Identify situations in which compromise is necessary
11.11.2.2 Examine how individuals from various backgrounds contribute to work-related situations
11.11.2.3 Demonstrate initiative to facilitate cooperation
11.11.2.4 Give and receive constructive criticism to enhance cooperation

UNIT 11: Employability Skills

SUBUNIT 11.12: Leadership

COMPETENCY 11.12.1: Evaluate leadership styles appropriate for the workplace

COMPETENCY BUILDERS:

11.12.1.1 Identify characteristics of effective leaders
11.12.1.2 Compare leadership styles
11.12.1.3 Demonstrate effective delegation skills
11.12.1.4 Identify opportunities to lead in the workplace

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COMPETENCY 11.12.2: Demonstrate effective teamwork skills

COMPETENCY BUILDERS:

11.12.2.1 Identify the responsibilities of a valuable group member
11.12.2.2 Exhibit open-mindedness
11.12.2.3 Identify methods of involving each member of a team
11.12.2.4 Contribute to the efficiency and success of a group
11.12.2.5 Determine ways to motivate others

COMPETENCY 11.12.3: Utilize effective communication skills

COMPETENCY BUILDERS:

11.12.3.1 Demonstrate the importance of listening
11.12.3.2 Demonstrate assertive communication
11.12.3.3 Recognize the importance of verbal and nonverbal cues and messages
11.12.3.4 Analyze written material
11.12.3.5 Prepare written material
11.12.3.6 Give and receive feedback
11.12.3.7 Articulate thoughts
11.12.3.8 Use appropriate language

UNIT 11: Employability Skills

SUBUNIT 11.13: Entrepreneurship

COMPETENCY 11.13.1: Evaluate the role of small business in the economy

COMPETENCY BUILDERS:

11.13.1.1 Identify the benefits of small business to a community
11.13.1.2 Analyze opportunities for small business in a community

COMPETENCY 11.13.2: Examine considerations of starting a business

COMPETENCY BUILDERS:

11.13.2.1 Research a business idea
11.13.2.2 Compare various ways to become a small business owner
11.13.2.3 Investigate factors to consider in financing a new business
11.13.2.4 Evaluate entrepreneurship as a career option

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The Ohio State University
1900 Kenny Road
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